



DEPARTMENT OF DEFENSE EXPLOSIVES SAFETY BOARD  
2461 EISENHOWER AVENUE  
ALEXANDRIA VIRGINIA A 22331-0600



10 FEB 2004

DDESB-IK

MEMORANDUM FOR HEADQUARTERS AIR FORCE SAFETY CENTER ATTN: SEW

SUBJECT: Approval of Reduced Maximum Credible Event (MCE) for AIM-9 and AIM-120 Mixed Trailer Configuration

Reference: HQ AFSC Memorandum for DDESB-KT of 2 January 2004, Subject: Reduced Maximum Credible Event (MCE) for AIM-9 and AIM-120 Mixed Trailer Configuration

The referenced memorandum requested Department of Defense Explosives Safety Board (DDESB) approval for reduced maximum credible event (MCE) for mixed storage configurations (as shown on attachment 1 of the referenced memorandum) of two AIM-120 (any model) and two AIM-9 (any model) all-up missiles on an MHU-141/M missile transport trailer. Supporting information provided with the referenced memorandum, and as part of previous Noble Eagle associated correspondence has been reviewed. We concur that the MCE can be reduced for trailer configurations involving these missiles.


The following conditions apply to this approval for use of a reduced MCE for AIM-9 and AIM-120 missiles on an MHU-141/M missile transport trailer:

- a. The two AIM-120 missiles will be loaded only on the inside stations of the trailer, oriented in alternating directions to prevent warheads being located adjacent to each other. Ensure missiles are centered on trailer.
- b. The two AIM-9 missiles will be loaded only on the outer stations of the trailer. The direction of the AIM-9s is optional. Ensure missiles are centered on trailer. Line-of-sight between the two AIM-9 missiles must be prevented while on the trailer.
- c. The above placement of missiles will result in two AIM-9 missiles (any orientation) being separated by two AIM-120 missiles (oriented in alternating directions). The MCE is considered one AIM-120 missile and one AIM-9 missile, and the maximum allowable net explosive weight for quantity-distance (NEWQD) for mixed trailer configurations, based on this MCE, is 29.5 pounds Hazard Division (H/D) 1.1.

The quantity-distance (QD) associated with mixed trailer configurations of AIM-120 and AIM-9 missiles meeting the above conditions are as follows: Inhabited Building Distance (IBD) - 400 feet; Public Traffic Route Distance - 60% of IBD, which equates to 240 feet; Intraline (IL) Distance -  $18 \times \text{NEWQD}^{1/3}$ ; and Intermagazine (IM) Distance - 100 inches.



DDESB point of contact is Mr. Eric Deschambault. He can be reached at commercial phone: 703-325-1369; DSN: 221-1369; and email: [eric.deschambault@ddesb.osd.mil](mailto:eric.deschambault@ddesb.osd.mil).

  
er  
WILLIAM E. WRIGHT  
Captain, US Navy  
Chairman

cc:  
ANG/XOS (Attn: Ms. Elizabeth Sheppe)

MFR (on file copy only):

Approval recommended based in part on test information contained in ref (g) of AF Rationale for Noble Eagle and on DTRA Test Report, ARA-LR-4.04-005, "AIM 120 Phenomenology Test 6," Apr 2004. This report tested the potential for prompt propagation of donor AIM-120 warhead fragments through an AIM-120 rocket motor and into an acceptor warhead. Propagation did not occur in either the adjacent AIM-120 rocket motor or in the warhead on the opposite side of the rocket motor. Alternating warhead orientation prevented propagation.

Approval recommended also based on results of test information contained in HQ, 46th Test Wing (AFMC), Eglin AFB, FL memorandum for HQ AFSC/SEW from 46 OG/OGM, subject: AAC Letter Report 02-46, MCE Testing of Air Defense Weapons Loads, JON AFZE0025. This report addresses the 100-inch separation that was tested for prevention of prompt propagation between AIM-7 and AIM-120 warheads. Testing was successful. The AIM-9 warhead was not included in this testing because the AIM-7 has a larger NEW and a similar warhead case design as the AIM-9 and thus it represented a worst-case test scenario.

The cart MCE is considered the combined NEWQD of the largest AIM-120 warhead and the largest AIM-9 warhead. The maximum NEWQD cannot exceed 29.5 lbs HD 1.1.

Eric Deschambault  
DDESB-KT2